

**VIRGINIA  
STANDARDS OF LEARNING ASSESSMENTS**

**Spring 2001 Released Test**

---

**GRADE 5  
SCIENCE**

# Property of the Virginia Department of Education

© 2001 by the Commonwealth of Virginia Department of Education, James Monroe Building, 101 N. 14th Street, Richmond, Virginia, 23219. All rights reserved. Except as permitted by law, this material may not be reproduced or used in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage or retrieval system, without written permission from the copyright owner. Commonwealth of Virginia public school educators may photocopy or print any portion of these Released Tests for educational purposes without requesting permission. All others should direct their requests to the Commonwealth of Virginia Department of Education at (804) 225-2102, Division of Assessment and Reporting.

**DIRECTIONS**

Read each question carefully and choose the best answer. Then mark the space in the answer booklet for the answer you have chosen.

**SAMPLE**

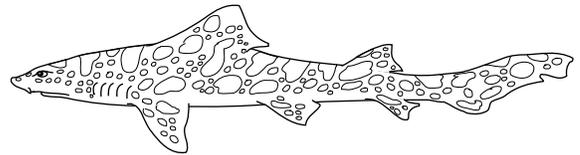
**When the Earth is seen from outer space, it looks mainly blue. This is because most of the Earth is covered with —**

- A ice
- B mountains
- C oceans
- D deserts

1

**Classification Key**

- 1a Body kite-like in shape . . . . . Ray
- 1b Body not kite-like in shape . . . . . Go to 2
  
- 2a Nose saw-like in shape . . . . .Swordfish
- 2b Nose not saw-like in shape . . . . . Go to 3
  
- 3a Head extended on both sides . . . .Hammerhead shark
- 3b Head not extended on both sides . . . .Go to 4
  
- 4a Body has spots . . . . . Leopard shark
- 4b Body does not have spots . . . . .Nurse shark



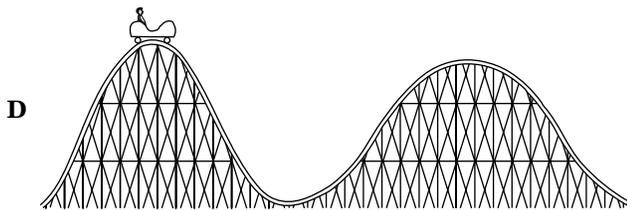
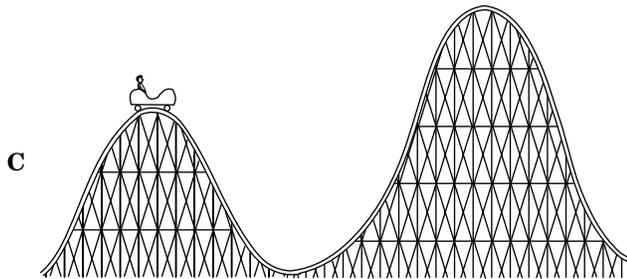
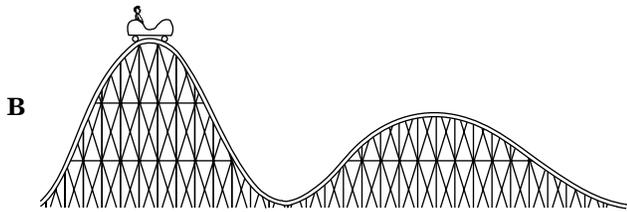
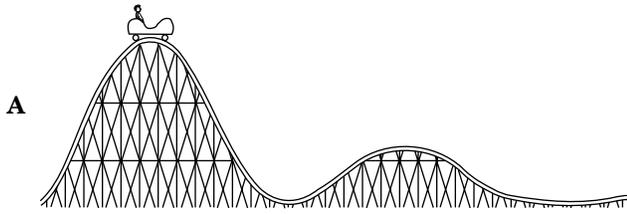
**Using the picture and classification key, what is this animal?**

- A Swordfish
- B Hammerhead shark
- C Leopard shark
- D Nurse shark

**2 The jellyfish is an invertebrate because it lacks —**

- F eyes
- G bones
- H blood
- J cells

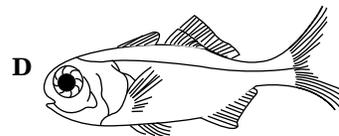
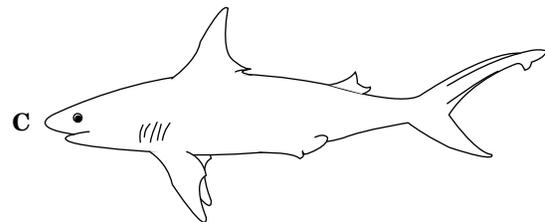
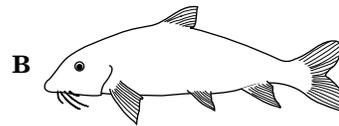
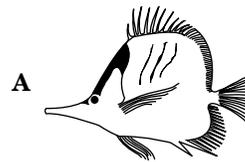
3 Which roller coaster will not have enough kinetic energy at the bottom of the first hill to carry the car over the second hill?



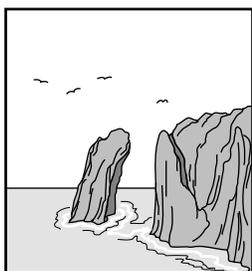
4 Benjamin Franklin discovered the form of energy produced by lightning. Experiments with lightning killed many people before he discovered that lightning is a form of —

- F gravity
- G water
- H magnetism
- J electricity

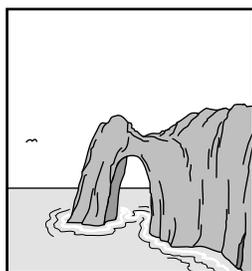
5 Which of these fish has a mouth shape that best allows it to find food hidden in the cracks of rocks and coral?



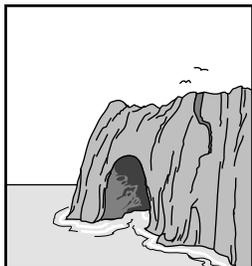
6



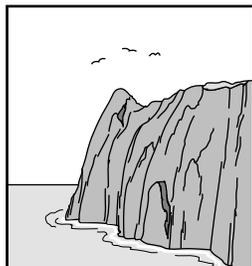
A



C



B



D

Wave action against solid rock can cause changes in the rock structure. What is the correct sequence of erosion of the above rock surface?

- F A,B,C,D
- G D,B,C,A
- H B,C,D,A
- J C,D,B,A

7 Oxygen, nitrogen, and carbon dioxide may be grouped together because at room temperature they are all a —

- A solid
- B liquid
- C gas
- D colloid

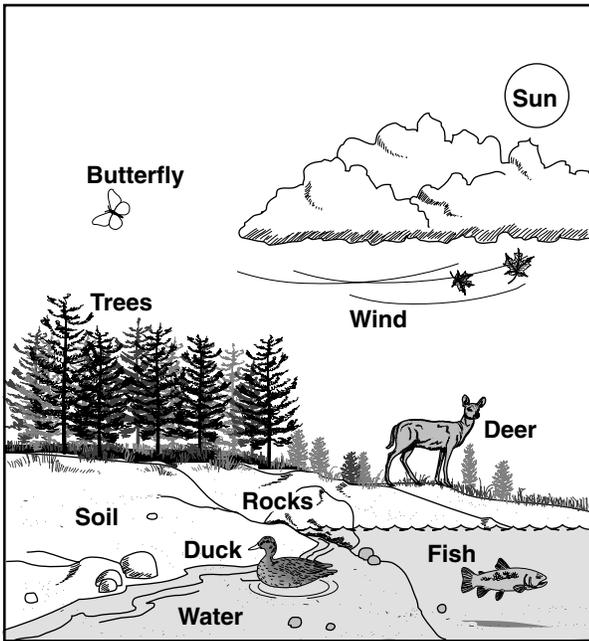
8 The moon revolves around —

- F itself
- G the Earth
- H the sun
- J the solar system

9 Which of these is a process that allows plants to convert light energy into food energy?

- A Reproduction
- B Excretion
- C Digestion
- D Photosynthesis

10



Which of the following *best* describes the living and non-living parts of the diagram above?

- F A niche
- G A community
- H An ecosystem
- J A biome

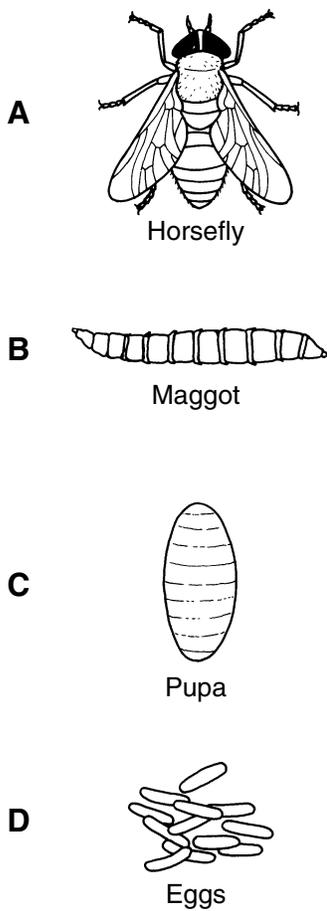
11

Virginia



Which of these towns is in the James River watershed?

- A Amherst
- B Madison
- C King William
- D Littleton



**What is the correct order to show the complete life cycle of a horsefly?**

- F** D, B, C, A
- G** D, C, B, A
- H** A, D, C, B
- J** C, B, D, A

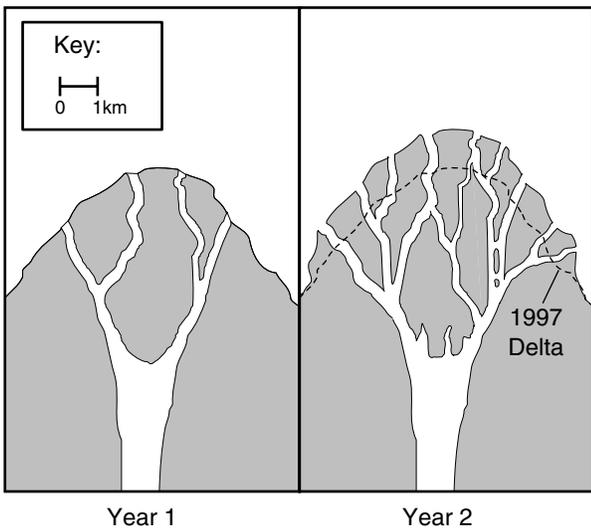
**13 Which of these will happen if the temperature of a metal pan is increased?**

- A** The pan will begin to lose heat.
- B** The molecules of the pan will move faster.
- C** The metal will change into another metal.
- D** The pan will contract.

**14 Sound waves travel best through —**

- F** gases
- G** liquids
- H** solids
- J** vacuums

15



The picture shows the development of a delta over a two-year period. According to this information, about how far did the delta reach into the ocean after 1997?

- A 0.1 km
- B 0.5 km
- C 1 km
- D 1.5 km

16 Which of these belong to the kingdom Monera?

- F Ferns
- G Mosses
- H Mushrooms
- J Bacteria

17 The salinity of the Mediterranean Sea is greater than that of the Atlantic Ocean. This means that, compared to the Atlantic Ocean, the Mediterranean Sea is —

- A wider
- B deeper
- C saltier
- D cooler

18

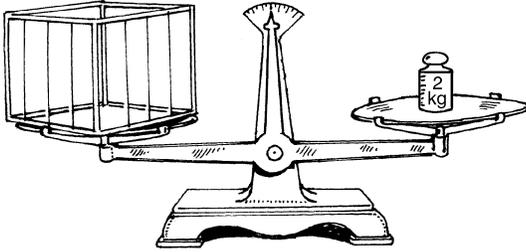


The picture shows a magnified view of a tick on a penny. About how long is the tick?

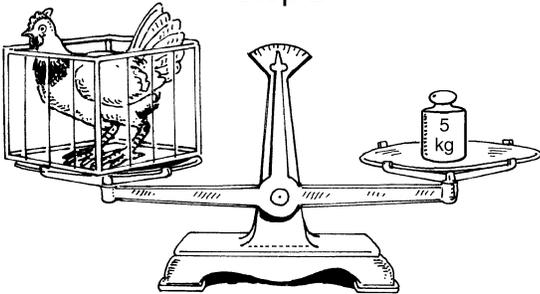
- F 1 millimeter
- G 2 kilometers
- H 4 meters
- J 10 centimeters

19

Step 1



Step 2



Amanda studied the mass gain in chickens for her science project. Which of these is the mass of this chicken?

- A 2 kg
- B 3 kg
- C 5 kg
- D 7 kg

20 Tornadoes are most likely to be produced from which type of cloud?

- F Cirrus
- G Stratus
- H Cumulus
- J Cumulonimbus

21 Which of these is needed to measure the mass of a rock?

- A An anemometer
- B A barometer
- C A balance
- D A metric ruler

22

Trial	Temperature (°C)
A	41
B	40
C	31
D	42

Students conducted an experiment in which they rubbed their palms together to warm their hands, then measured the temperature of their hands. The experiment was conducted 4 times. According to the data in the table, which of these trials is most unusual?

- F A
- G B
- H C
- J D

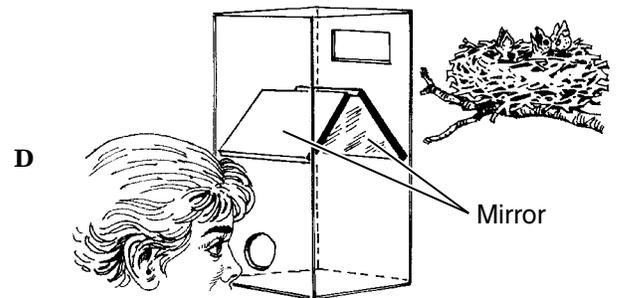
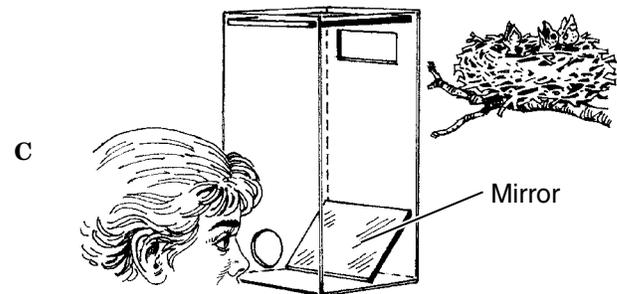
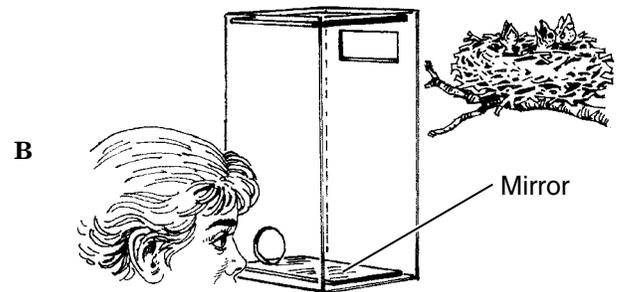
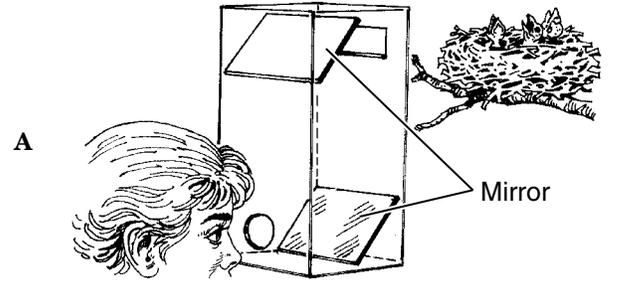
23 The internal parts of a cell are suspended in a jelly-like liquid called the —

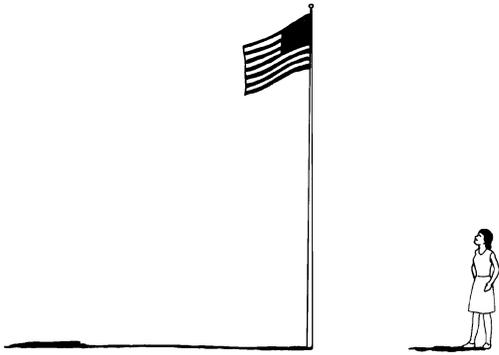
- A nucleus
- B cell membrane
- C cytoplasm
- D chloroplasts

24 Which surface feature is most likely caused by the movement of the Earth's crustal plates?

- F Canyons
- G Deltas
- H Lakes
- J Volcanoes

25 A periscope works by using the reflection of mirrors. Tama made several periscopes for watching baby birds in a nest. Which periscope will work?





The girl above is looking at the flag early in the morning. The sun rises in the east. In which direction is she facing?

- F North
- G East
- H South
- J West

27 Which of these can most easily produce magnetic fields?

- A Sunlight
- B Wind
- C Electricity
- D Flowing water

28 The substance that makes plants green is known as —

- F water
- G calcium
- H chlorophyll
- J carbon dioxide

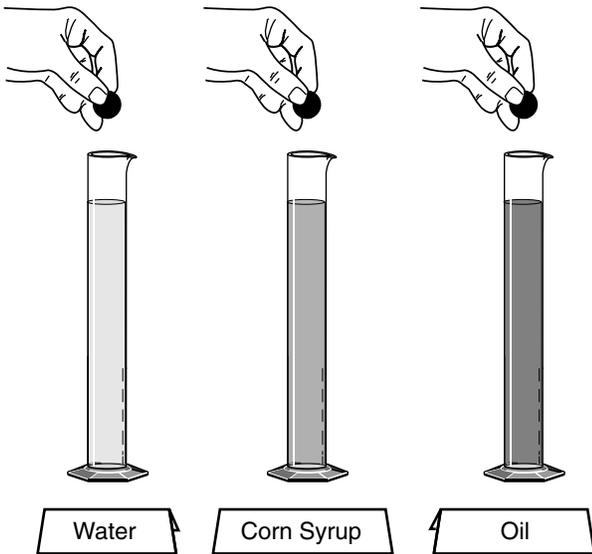
29 Which instrument could tell you that conditions are right for flying a kite?

- A Anemometer
- B Barometer
- C Hygrometer
- D Thermometer

30 Today, which human activity is responsible for endangering the greatest number of land animal species?

- F Hunting for food and for sport
- G Destruction of habitats
- H Accidental starting of forest fires
- J Cutting wildflowers in national parks

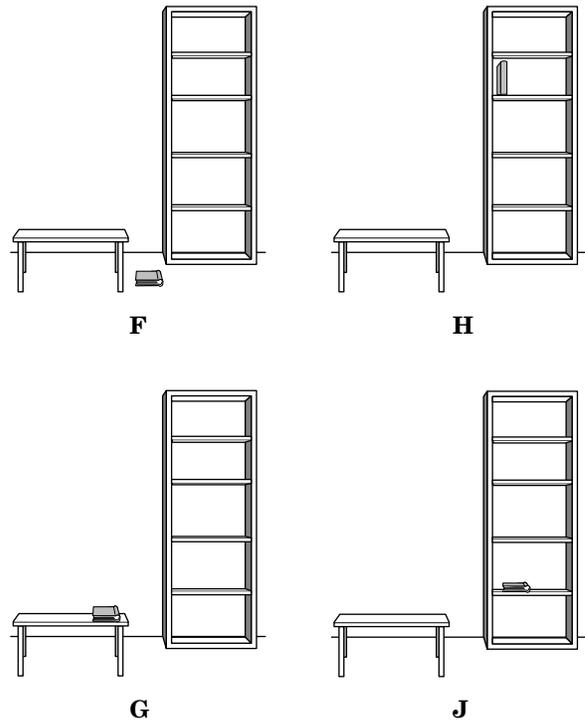
31



A student uses the equipment shown above to study which liquid is the thickest. What information is the most appropriate to record?

- A The height of each of the graduated cylinders
- B The time it takes for each marble to hit bottom
- C The size and mass of each of the marbles
- D The volume of each of the liquids in the cylinders

32 Which picture shows the book with the most potential energy?



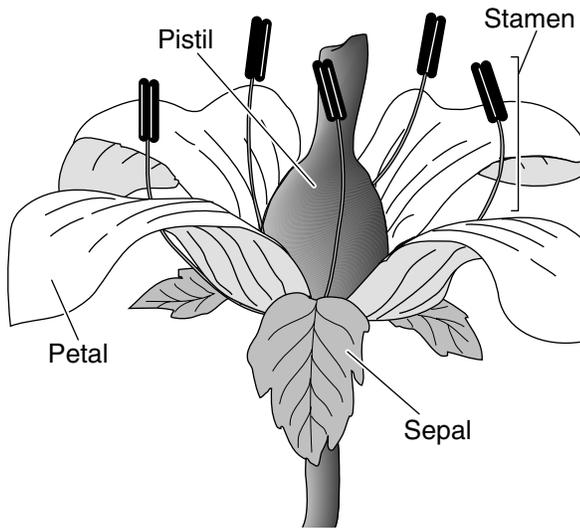
33 Which of these units would be best to use to measure the amount of water in a test tube?

- A Milliliters
- B Meters
- C Kilograms
- D Seconds

34 A large rock and a long, thick board could be used to construct which simple machine?

- F Screw
- G Pulley
- H Wheel and axle
- J Lever

35



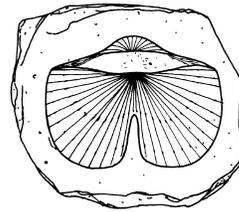
Which of these plant parts forms the seeds?

- A The stamen
- B The pistil
- C The sepals
- D The petals

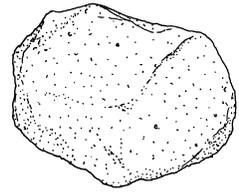
36 Electric lights will not come on unless their electrical circuit is a —

- F parallel circuit
- G series circuit
- H closed circuit
- J short circuit

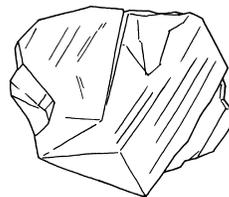
37 Rocks which formed in areas once covered by oceans often contain fossils of animals which lived in the sea. Which one of these rocks contains fossils of ocean animals?



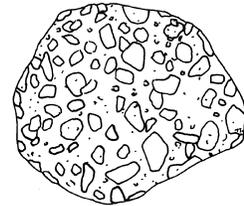
A



C



B

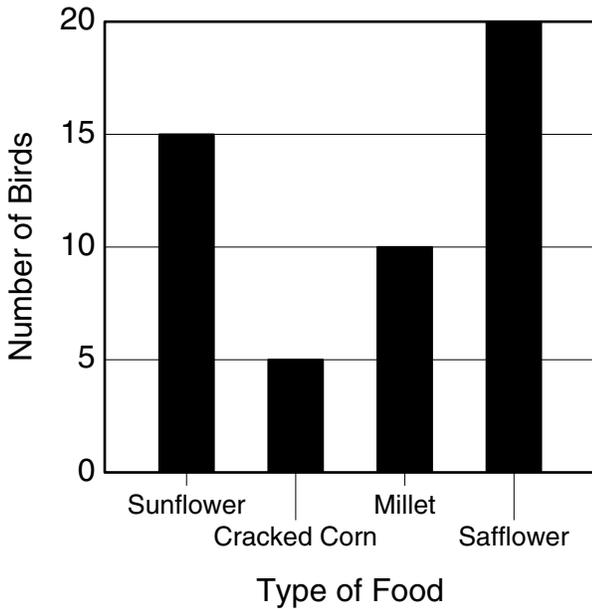


D

38 Which factor is usually recorded when gathering weather data?

- F Number of gases in the air
- G Temperature of the air
- H Type of gases in the air
- J Amount of air in an area

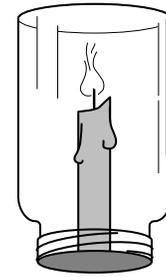
39 **Bird Food Choices**



According to the graph, which combination of food would probably bring the most birds to the feeder?

- A Sunflower seeds and cracked corn
- B Cracked corn and millet
- C Millet and safflower seeds
- D Sunflower and safflower seeds

40



How big would a jar have to be to keep the candle burning for 5 minutes?

- F 1 liter
- G 5 liters
- H 10 liters
- J 15 liters



## Answer Key

<b>Test Sequence</b>	<b>Correct Response</b>	<b>Reporting Category</b>	<b>Reporting Category Description</b>
1	C	015	Scientific Investigation
2	G	017	Life Processes and Living Systems
3	C	016	Force, Motion, Energy, and Matter
4	J	016	Force, Motion, Energy, and Matter
5	A	017	Life Processes and Living Systems
6	G	018	Earth/Space Systems and Cycles
7	C	016	Force, Motion, Energy, and Matter
8	G	018	Earth/Space Systems and Cycles
9	D	017	Life Processes and Living Systems
10	H	017	Life Processes and Living Systems
11	A	018	Earth/Space Systems and Cycles
12	F	017	Life Processes and Living Systems
13	B	016	Force, Motion, Energy, and Matter
14	H	016	Force, Motion, Energy, and Matter
15	C	015	Scientific Investigation
16	J	017	Life Processes and Living Systems
17	C	018	Earth/Space Systems and Cycles
18	F	015	Scientific Investigation
19	B	015	Scientific Investigation
20	J	018	Earth/Space Systems and Cycles
21	C	015	Scientific Investigation
22	H	015	Scientific Investigation
23	C	017	Life Processes and Living Systems
24	J	018	Earth/Space Systems and Cycles
25	A	016	Force, Motion, Energy, and Matter
26	J	018	Earth/Space Systems and Cycles
27	C	016	Force, Motion, Energy, and Matter
28	H	017	Life Processes and Living Systems
29	A	018	Earth/Space Systems and Cycles
30	G	017	Life Processes and Living Systems
31	B	015	Scientific Investigation
32	H	016	Force, Motion, Energy, and Matter
33	A	015	Scientific Investigation
34	J	016	Force, Motion, Energy, and Matter
35	B	017	Life Processes and Living Systems
36	H	016	Force, Motion, Energy, and Matter
37	A	018	Earth/Space Systems and Cycles
38	G	018	Earth/Space Systems and Cycles
39	D	015	Scientific Investigation
40	G	015	Scientific Investigation